

Bioretention Exercise

The following questions pertain to bioretention facilities.

Please use this as a study guide, but do not bring it with you to the exam.

1. What are the primary components of a bioretention facility?

- Filter bed, which has a mixture of sand, soil, and organic material as the filtering media with a surface mulch layer. (PAGE: 1 of 54)

2. What is the primary difference between a Level 1 Design and a Level 2 Design?

- A level 1 design primarily filters the stormwater runoff, and utilizes an underdrain to return the runoff to the storm drain system. A level 2 design can infiltrate runoff into native soils, and therefore achieve a higher volume reduction. (PAGES: 2 and 3 of 54)

3. What is the minimum filter media depth for Level 1 Design of a bioretention basin?

- 24 inches minimum with 72 inch recommended maximum. (PAGE: 5 of 54)

4. How do you determine what is an acceptable media mix?

- Use an approved vendor, or verify with lab testing that it meets specifications.

5. What critical factor must be achieved before installation of the bioretention can begin and why?

- The entire contributing drainage area must be stabilized with vegetation (PAGE: 34 of 54) to prevent sediment from clogging the media mix and changing the filtration/infiltration characteristics.

6. The media should be installed at what incremental thickness during construction until the desired depth is achieved?

- In 12" lifts (PAGE: 34 of 54)

7. What season are annual post-construction inspections recommended? And why?

- It is highly recommended that the facility is inspected in the spring to identify sand and salt accumulation and check for any dead plants that require maintenance.

(PAGE: 37 of 54)

8. As a qualified professional that will certify the construction of the facility, how many inspections would you perform?

- (There's no right answer to this question)
One to ensure site is stabilized, one random to monitor use of heavy equipment, one/two to inspect installation of underdrain, fabric material, media mix, one to inspect final construction.

9. As a certified SWM inspector acting on behalf of the VSMP Authority, how many inspections would you perform?

- (There's no right answer to this question)
One to ensure site is stabilized, one/two random during various stages of installation, one final inspection.